

In the Claims

Claims 1-34 (cancelled).

Claim 35 (previously presented): A method of forming capacitor structures, comprising:

forming a capacitor dielectric region over a first electrical node, the forming the capacitor dielectric region comprising:

forming a layer of metallic aluminum over the first electrical node, the layer of metallic aluminum having a thickness less than 40 Å; and

exposing the layer of metallic aluminum to one or both of O or N at a temperature less than 300°C to form a dielectric material comprising aluminum and one or both of O and N; and

forming a second electrical node over the dielectric region, the first electrical node, the capacitor dielectric region, and the second electrical node comprising a capacitor structure.

Claim 36 (previously presented): The method of claim 35 wherein the first electrical node comprises silicon and the dielectric material consists essentially of aluminum and one or both of O and N.

Claim 37 (previously presented): The method of claim 35 wherein the first electrical node comprises silicon and the dielectric material consists of aluminum and one or both of O and N.

Claim 38 (previously presented): The method of claim 35 wherein the forming the capacitor dielectric region further comprises, prior to forming the layer of metallic aluminum, forming a silicon dioxide-comprising layer over the first electrical node, wherein the capacitor dielectric region comprises the silicon dioxide-comprising layer and the dielectric material.

Claim 39 (previously presented): The method of claim 38 wherein the silicon dioxide-comprising layer is between the dielectric material and the first electrical node.

Claim 40 (previously presented): The method of claim 38 wherein the dielectric material physically contacts the silicon dioxide-comprising layer and the dielectric material consists essentially of aluminum and one or both of O and N.

Claim 41 (previously presented): The method of claim 38 wherein the dielectric material physically contacts the silicon dioxide-comprising layer and the dielectric material consists of aluminum and one or both of O and N.

Claim 42 (previously presented): The method of claim 35 wherein the forming the capacitor dielectric region further comprises, after forming the dielectric material:

forming another layer of metallic aluminum over the dielectric material; and
exposing the other layer of metallic aluminum to O or N to form another dielectric material comprising one or both of O and N, wherein the dielectric materials have different compositions from one another.

Claim 43 (previously presented): The method of claim 42 wherein the dielectric material comprises aluminum nitride and the other dielectric material comprises aluminum oxide.

Claim 44 (previously presented): The method of claim 42 wherein each of the dielectric materials has a thickness of less than 20 Å.

Claim 45 (previously presented) A method of forming capacitor structures, comprising:

forming a capacitor dielectric region over a first electrical node, the forming the capacitor dielectric region comprising:

forming a layer of metallic aluminum over the first electrical node; and

exposing the layer of metallic aluminum to one or both of O or N at a temperature less than 300°C to form a dielectric material comprising aluminum and one or both of O and N; and

forming a second electrical node over the dielectric region, the first electrical node, the capacitor dielectric region, and the second electrical node comprising a capacitor structure.

Claim 46 (previously presented): The method of claim 45 wherein the first electrical node comprises silicon and the dielectric material consists essentially of aluminum and one or both of O and N.

Claim 47 (previously presented): The method of claim 45 wherein the first electrical node comprises silicon and the dielectric material consists of aluminum and one or both of O and N.

Claim 48 (previously presented): The method of claim 45 wherein the forming the capacitor dielectric region further comprises, prior to forming the layer of metallic aluminum, forming a silicon dioxide-comprising layer over the first electrical node, wherein the capacitor dielectric region comprises the silicon dioxide-comprising layer and the dielectric material.

Claim 49 (previously presented): The method of claim 48 wherein the silicon dioxide-comprising layer is between the dielectric material and the first electrical node.

Claim 50 (previously presented): The method of claim 48 wherein the dielectric material physically contacts the silicon dioxide-comprising layer and the dielectric material consists essentially of aluminum and one or both of O and N.

Claim 51 (previously presented): The method of claim 48 wherein the dielectric material physically contacts the silicon dioxide-comprising layer and the dielectric material consists of aluminum and one or both of O and N.

Claim 52 (previously presented): The method of claim 45 wherein the forming the capacitor dielectric region further comprises, after forming the dielectric material:

forming another layer of metallic aluminum over the dielectric material; and
exposing the other layer of metallic aluminum to O or N to form another dielectric material comprising one or both of O and N, wherein the dielectric materials have different compositions from one another.

Claim 53 (previously presented): The method of claim 52 wherein the dielectric material comprises aluminum nitride and the other dielectric material comprises aluminum oxide.